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QUOTATIONS**UNIVERSITY LIFE IN KANSAS**

THE vague feeling of unrest that has prevailed among the members of the university faculty on account of sweeping changes that might be made by the new board of administration has deepened into real alarm with the announcement from the board that all positions at the university have been declared open.

This is understood to mean that when the new board takes charge formally July 1, the entire faculty must be reengaged. The fact that a member has been elected a permanent member of the faculty by the board of regents in previous years after serving an apprentice term of years would not necessarily count at all with the new board. The board has by its announcement indicated that it will feel free to drop any member of the faculty it pleases.

That such will be the attitude of the new board is indicated by its action at a meeting last week when Chancellor Strong and President Waters were "reelected" to the positions they now occupy. As there was no definite limit to their "terms" it is hard to explain the action of the board other than by the supposition that it is its intention to wipe the slate clean and build the university anew "from the ground up." If any person has a position on the faculty after July 1, he will hold it directly from the new board of administration and not by virtue of the fact that he has grown old in the service of the institution.

Naturally, this plan of procedure has made the faculty very uneasy. It has been customary to reelect a new member for a number of years, until he had proved his worth to the institution, and then the regents would elect him a "permanent member" of the faculty. Under the new rule the old members are placed in the same boat with instructors of a single year's standing. None of them will know until after the "election" whether they are to be turned on the faculty. It is not an uncommon thing for a professor to have enemies. How is he to know that his enemies may not have the ear of the board, spreading little stories that reflect upon him? The old

board of regents made it a practise to pay very little attention to such stories, although they heard plenty of them. But what the new board will do is entirely a matter of conjecture.

The most envied members of the faculty at the present time are those who have had offers of situations elsewhere. Of course everything may turn out all right, but, on the other hand, men who otherwise would have nothing to be alarmed at may be eliminated when the new broom begins to give its exhibition of clean sweeping. And a good many teachers have remarked privately in the last few months that they intended to take the first fair offer from elsewhere that presented itself. The talk about abolishing and consolidating and transferring courses was enough to make them uneasy, but the announcement now made that every teacher is likely to be treated as if he were for the first time an applicant for a position at the university has caused a decided feeling of insecurity.—*Lawrence Gazette*.

SCIENTIFIC BOOKS

A History of European Thought in the Nineteenth Century. By JOHN THEODORE MERZ. Vol. III. (Part II., Philosophical Thought). New York, Charles Scribner's Sons. 1912. Pp. xiii + 646.

Nothing so well illustrates the profound interest of the great subject undertaken by Dr. Merz as the contrast between his work and Whewell's "History of the Inductive Sciences" (3d ed., New York, 1858). The evident superiority of the later history, especially in intensive treatment and exact *Facharbeit*, is in itself an index of the wonderful progress that characterized the nineteenth century, notably after "The Origin of Species." Fortunately, too, Dr. Merz has been content to take time. His first volume was published in 1896 (3d ed., 1907), and in it he grappled with the physical sciences. The second volume followed at an interval of seven years, and completed the task, as concerned the "sciences of nature." These volumes should be in the hands of every builder of "natural knowledge." It is to be hoped that the appearance of the

volume now before us will lend new stimulus to the sale of its predecessors. A fourth and concluding volume is yet to follow. But we have evidence, and to spare, that, once more, an Englishman of business affairs has arisen to occupy a place alongside George Grote and many others (Darwin not least) who, without academic support or connections, have accomplished so much for the advancement of British science, and the preservation of its distinctive temperament. As it stands, "A History of European Thought in the Nineteenth Century" is a magnificent performance. To the patient thoroughness of the German, Dr. Merz has added the clearness and, in the best meaning, the common-sense of his own countrymen. He carries his load without the aid of any partisan theory, he has no pet ideas to exploit. And although, the very nature of the case preventing, I am not yet convinced that his discussion of philosophical thought is as successful as his presentation of scientific achievement, nevertheless it is plain that Part II. bids fair to be as invaluable as Part I.

The volume contains six chapters: Introductory; On the Growth and Diffusion of the Critical Spirit; Of the Soul; Of Knowledge; Of Reality; and Of Nature. The plan demands some elucidation. Dr. Merz points out that "In the beginning of the century, both in Germany and England, science and scientific thought played only a secondary part in literature and teaching. France was the only country in which it had early acquired that position and commanded that esteem which it now enjoys everywhere" (p. 91). The nineteenth century brought about a change which "amounts in many cases to a complete reversal of the estimation in which the mathematical and natural sciences, on the one hand, the historical and philosophical, on the other, are held. The earlier part of this history has furnished the answer to the first half of the problem: I there endeavored to show that the success and assurance of scientific thought has grown with the growth and diffusion of the scientific spirit, which has been more clearly defined as the exact or mathematical spirit. . . . The second part of this history will have

to answer the other half of the above question, namely, what are the causes that have brought about that great change in the general and popular appreciation of philosophical discussions? How is it that instead of one or two dominant systems of thought we have now what may be called a complete anarchy, or, at best, a bewildering eclecticism? . . . I will at once answer this question. The great change referred to is owing to the growth and diffusion of the critical spirit, taking this term in its widest sense" (pp. 93-95). Accordingly, the scene being thus shifted, there is no little need of the warning that Dr. Merz is careful to issue. "I think it will be more helpful to my readers if, when entering on a new portion of my subject, I immediately impress upon them the necessity of adopting an entirely different point of view from that to which they may have become accustomed by the perusal of the former volumes. So strongly do I feel the necessity of this, that I am inclined to say that, except they are prepared to familiarize themselves with an entirely altered set of interests, problems and methods, I shall fail to gain, or to retain, their attention in that which follows" (p. 34). This, then, indicates the general setting.

The method employed to reach the special divisions is also set forth clearly. "The dualism which pervades all modern thought will occupy us quite as much as the attempts towards unification" (p. 56). "In Leibniz philosophical thought arrived at the position which, with certain interruptions, it still occupies at the present day; its task being, not to afford new knowledge, but to mediate between the claims of two kinds of knowledge: that which deals with things surrounding us in time and space, and that which deals with the highest questions of our life, our destiny, and our duties" (pp. 334-335). Thus, following Kant's famous pronouncement, at the close of the "Critique of Practical Reason," Dr. Merz finds himself confronted with two central problems. "The first begins with the place which I occupy in the outer world of the senses and expands the connections in which I stand into the invisibly great, with worlds upon worlds

and systems upon systems, moreover, into limitless ages of their periodic motion, its origin and duration. The second begins with my invisible Self, my personality, and represents me as standing in a world which has true Infinity, but is accessible only to Reason." Each of these problems, in turn, splits into several parts. Therefore, Dr. Merz proclaims: "I am not primarily interested in expounding the different philosophical systems, but rather in tracing the leading ideas which have survived these systems themselves and become the common property of the philosophical mind at the present day. . . . As we saw that the scientific activity of the century resulted in the firm establishment of a small number of leading conceptions, so I shall now endeavor to show how the huge and frequently conflicting philosophical literature has left behind it a small body of guiding ideas which form the enduring bequest of nineteenth-century speculation" (pp. 39-41). Hence, "looking at the different national interests which promoted philosophical thought in the three countries [*i. e.*, England, Germany and France], we are led to a first division of this great subject which is given by the terms psychological, metaphysical and positive" (pp. 45-46). Besides this, there is the sphere of individual beliefs and convictions which "have quite as much the right to be regarded as facts as any more definite, scientific or historical knowledge" (p. 53). The latter are to be treated in Vol. IV., and again in six chapters: Of the Beautiful; Of the Good; Of the Spirit; Of Society; Of Systems of Philosophy; and "will close with a summary of the general outcome of Philosophical Thought during the Nineteenth Century" (p. vi). Of the former, now before us, but one seems to call for further comment, the rest are self-explanatory. In these days, what does Dr. Merz mean by "Of the Soul"? He answers: "I have headed this first chapter which deals with a definite philosophical problem: 'Of the Soul.' I might have chosen several other words which would have equally introduced us into that portion of philosophical literature with which I am now concerned. . . . That I nevertheless pre-

fer to speak of the soul and not of the human mind or human nature, may be justified by the fact that the word soul introduces us at once to a historical discussion which took place in the middle of the century in Germany, and which may be considered to mark one of the great changes that have come over our way of regarding all questions connected with the mental life. What was called at the time 'Die Seelenfrage' occupied the foremost place in philosophical discussions carried on both by philosophers and naturalists. . . . It seems appropriate to start the history of philosophical thought with an account of the problems which center in the word soul" (pp. 196-199).

Thanks to limits of space and to the fact that technical criticism of philosophy is out of place here, I must content myself with a few summary remarks about the contents of the book. The introductory chapter offers an admirable review of the temperamental differences between science and philosophy, and of the conditions that governed reflective thought throughout last century; while the chapter on the critical spirit is the best synopsis of the historical sciences within my knowledge. Seeing that the scientific and critical movements are the twin intellectual achievements of modern thought, and that the one can not be understood apart from the other, this distilled statement should prove most illuminating to all workers in the physical and biological fields.

Turning to the philosophical chapters, the point of view may be hinted. It is sufficient to say, perhaps, that Dr. Merz deems Lotze the most typical and discriminating thinker of the age. Consequently, he tends to pivot German thought upon the Göttingen professor and, as a sequel, to lay much stress upon Renouvier for French and Professor James Ward for English philosophy. Seeing that Renouvier has not dominated French thought at any time, and that Dr. Ward has never wielded such influence in Britain as Green, the Cairds, Wallace and Bradley, this view seems difficult to maintain. Despite Lotze's failure to found a "school" in Germany, Dr.

Merz's contention may be justified from a purely historical standpoint, although, even here, I have grave doubts (*cf.* pp. 266 f.). For, the clear statement of Lotze's position (pp. 501 f.) amounts to a fatal criticism philosophically! The single proposition—"relations which endure and events that happen, imply things in and between which they subsist" (p. 502)—is in itself sufficient condemnation. Another interesting feature, interesting especially to scientific men, is the rehabilitation of Schelling (pp. 453 f.), who, we are told, "deserves to be looked upon as the central figure during the idealistic period of German philosophy" (p. 453). Now, although Dr. Merz seems to me to begrudge the immense influence of Hegel, he is bold enough to affirm that "Hegel deserves to be looked upon as the greatest representative of philosophical thought in the nineteenth century" (p. 476). Of this there can be no question, I think. But how this conclusion, which Hegel literally wrings, as it were, from Dr. Merz, is to be reconciled with the primacy accorded to Schelling is hard to understand. Nevertheless, the appreciation of Schelling, and particularly the effort to remove the misconception that has been heaped upon him, was greatly in need. Omitting many other notable matters, I would simply record that the chapter on knowledge is, in my judgment, the most successful; while the discussion of the problem of nature is the most suggestive, so much so, that it can not fail to appeal to followers of the natural sciences. Dr. Merz handles the vast wealth of material with astonishing skill, intimacy and perspicacity.

As was inevitable in work done on so large a scale, there are some few unguarded statements. I can not but think that the tendency to separate sharply between "outer" and "inner" results in a false contrast (p. 12). It would be much nearer the truth to say of D. F. Strauss, that the issues he raised were misunderstood by his own contemporaries, than that "the conclusions he came to were premature" (p. 169). It is doubtful, if no more, whether any such relation between Hume and Kant as is put forward for fact

(p. 229) could be proven historically. The remark about psychology (p. 252) is scarcely in focus. For, even granted that the old psychology disappeared, we had ample compensation in *Völkerpsychologie* and *Sprachwissenschaft*, both traceable to the very movement which Dr. Merz tends to condemn. Indeed, the main defect of the "History" is to be found precisely in its prevalent tendency to minimize this same movement. There is an astonishing misconception of Fichte's problem (p. 234), and a curious comment about Spencer's knowledge of Kant (p. 296), whom, as Spencer himself informs us, he could not read. It ought to be noted, finally, that the scope of the work is not European. Dr. Merz really confines himself to the three leading nations—France, Britain and Germany. The omission of Italy, particularly after the work accomplished by her when her political unification was won, is to be regretted. But, we should not look a gift horse in the mouth. These are mere blemishes, never blots, on a very remarkable achievement.

The publishers (Blackwoods, Edinburgh) ought to have their share of commendation. Considering the size of the volume, and the elaborate notes with which it literally swarms, the press work is exceptionally free from errors. A letter dropped in the marginal summary (p. 12); J. F. for J. H. Tufts (p. 57 n.); J. M. for T. M. Lindsay (p. 209 n.); Taylor for Tayler (p. 306 n.); Eucken's work (p. 436 n.) is not a "little tract"; Thompson for Thomson (p. 612 n.)—an insignificant total. The index is excellent—a most important consideration in so voluminous a performance. Dr. Merz promises that, "when the fourth volume appears," it "will be cancelled to make place for a more comprehensive index covering both volumes" (p. vi). In these circumstances, I venture to append a list of errors for correction then. Under De Morgan, "Study of . . . Metaphysics, 576" should read Study of . . . Mathematics, 376; "McCormick" should read McCormack; there is a reference (p. 165 n.) omitted under "Lexis." "Ravaission-Mollien" is misleading. Ravaission did adopt the name of his maternal

uncle, but not till after his classical "Rapport" (of 1867, not 1868, as on pp. 201, 234, 426); quite rightly, he is always referred to in the text by his paternal name, without the later addition, and should be so noted in the index. Under "Schiller" philosophy has been substituted for history. "*Aenesidemus*" is correctly printed under "Schulze, G. E." incorrectly on p. i of the index. Under "Ueberweg," T. M. should be substituted for J. M. Lindsay; and "Taylor" should read Tayler. The caption "Cause and effect defined" should be thoroughly revised and extended. There are several references in the text of far greater importance than the single one recorded in the index.

R. M. WENLEY

ANN ARBOR

Electrical Machine Design. By ALEXANDER GRAY. McGraw Hill Book Company.

"Electrical Machine Design," by Alexander Gray, discusses the theory of operation and design of direct current generators and motors of both interpole and non-interpole type, alternating current generators, induction motors and transformers. Five hundred and seven pages are not enough to cover such a range of subjects satisfactorily, and when the analysis of theory is carried to the extent attempted by Mr. Gray the result can not be a success. Considered as a text-book, it would be unsuited to the average fourth-year student, not because the analyses are too involved for such, but because their introductions are too brief. The calculation of temperature gradient may be taken as an example. If a few paragraphs had been inserted discussing the laws governing flow of heat, and containing perhaps a simple application, the subsequent treatment would have been much more easily understood. The same criticism is applicable to the chapter on armature reactions in alternators.

Considered as a book for reference purposes, this work contains much matter of value, both to the student and to the designer. Discussions of such questions as noise of induction motors; comparative value of shell and core type transformers, short pitch windings

in direct current machines, are really valuable and are not to be found readily elsewhere. The subjects of commutation and insulation are very well developed.

The arrangement of subject matter is usually excellent. The treatment of the induction motor had better have followed that of the transformer instead of preceding it. Such an arrangement would have made possible the consideration of the induction motor as a transformer, a most practical and effective method. The theory of operation and construction of each type of apparatus is first developed. This is followed by the procedure in design, the discussion of special types of machines, and a chapter on specifications. Examples accompany the text and should aid the student materially in his comprehension of the subject.

The book compares favorably with the other books on design in our language, but when it is contrasted with the simple and extremely logical treatments to be found in the works of Arnold, its own shortcomings are most apparent.

C. W. GREEN

METEOROLOGICAL OBSERVATIONS AT THE UNIVERSITY OF CALIFORNIA

IT is probably due to the fact that the public interest in meteorology is centered around weather forecasts that the science has received so little attention from the universities of the United States. The University of California is one of the relatively small number which has maintained a regular series of observations for a considerable period.

Until July 1, 1912, when the routine meteorological work at Berkeley was transferred to the department of geography under which the courses in meteorology and climatology are listed, the astronomy departments, the Lick Observatory at Mount Hamilton and the Students' Observatory at Berkeley, carried on the principal meteorological observations of the university. Meteorological observations have always been a part of the regular work of the Lick Observatory and, when the Students' Observatory was established at Berkeley, its ac-